

## ABSTRACT

Disclosed is a process for preparing an industrial polyester multifilament yarn with high modulus and low shrinkage, in which polyethylene terephthalate polyester is wound at 2000m/min or more to produce undrawn yarns with an intrinsic viscosity of 0.88 or higher and a density of 1.338 to 1.365g/cm<sup>3</sup>, an oiling agent is provided to undrawn yarns, the resulting undrawn yarns are wound, drawn through three stages, heat set, relaxed, and wound again.

The polyethylene terephthalate polyester yarn is produced by drawing undrawn yarns at a glass transition temperature ( $T_g$ , about 80°C) or lower through three stages under conditions that a draw ratio of the 1<sup>st</sup> stage is greater than a draw ratio of the 2<sup>nd</sup> stage or a draw ratio of the 3<sup>rd</sup> stage and the draw ratio of the 3<sup>rd</sup> stage is greater than the draw ratio of the 2<sup>nd</sup> stage. Also, the industrial polyester yarn with high modulus and low shrinkage has an elongation 1% or more higher, and terminal modulus 10g/d or more lower than conventional polyester high modulus low shrinkage yarns, if tenacities are identical.

Treated cords formed from the polyester yarns with high modulus and low shrinkage have an excellent dimensional stability and tenacity, and so are useful as tire cords.